

REMARKS

This communication is submitted in response to the Office Action dated November 10, 2003.

Claims 1-24, 28-39, 51-57 and 59-62 are pending in the subject application with claims 1, 28, 51 and 60 being amended herewith. Claims 2, 4, 23, 24, 33 and 34 stand withdrawn from consideration. Claims 25-27, 40-50 and 58 were previously canceled. Claims 2-24, 29-39, 52-57, 59, 61 and 62 have not been changed relative to their immediate prior versions.

The amendments to the claims are clearly supported by the specification as originally filed and do not introduce any new matter.

Reconsideration of the subject application is respectfully requested in view of the foregoing amendments and the following remarks.

Initially, it is pointed out that the disposition of claims listed by the Examiner on the Office Action Summary is incorrect. Claims 1-57 and 59-62 are listed as pending and as being rejected. However, claims 25-27, 40-50 and 58 have previously been canceled. It is respectfully requested that the disposition of claims be corrected in the next Office Action.

The rejection of claims 1, 3, 5 and 17-21 as being unpatentable over Hill in view of Werner et al, the rejection of claim 6 as being unpatentable over Hill in view of Werner et al and further in view of Slavin, Jr., the rejection of claims 28, 29, 31, 32, 36-39, 51-55 and 60-62 as being unpatentable over Hill in view of Werner et al and Slavin, Jr., the rejection of claims 7-16 and 30 as being unpatentable over Hill in view of Werner et al and Slavin, Jr., the rejection of claims 1, 22, 28 and 35 as being unpatentable over Grossman in view

of Foster et al, and the rejection of claims 56, 57 and 59 as being unpatentable over Sanford are all respectfully traversed for the following reasons.

Independent claim 1 recites “a shattered window pane disposed in said window frame and having an exterior surface and an interior surface exposed by said window frame, said interior surface being opposite said exterior surface; and a layer of unifying material adhesively bonded to a substantial portion of at least one of said exterior surface or said interior surface, said layer of unifying material and said window pane bonded thereto forming an integral, cohesive mass in which said shattered window pane is structurally united, said cohesive mass being removable from said window frame as one or more integral and unitary pieces.”

As pointed out in the amendment filed August 21, 2003, Hill does not disclose a layer of unifying material adhesively bonded to at least one of the exterior surface or the interior surface of a shattered window pane, much less being bonded to a substantial portion of at least one of the exterior surface or interior surface of a shattered window pane. In Hill, the resin material is identified as a “filler” and is explicitly and repeatedly disclosed by Hill as being forced into a crack in a windshield (Abstract, lines 10-11; column 3, lines 63-64; and column 4, lines 3-4 and 7-9). There are absolutely no teachings or suggestions whatsoever by Hill of the resin filler being bonded to a substantial portion of at least one of the exterior or interior surfaces of the windshield. Rather, the teachings of Hill are explicitly and literally limited to the resin filler being forced into a crack. In addition, there are no teachings or suggestions whatsoever by Hill of the resin filler being adhesively bonded to at least one of the exterior or interior surfaces of the windshield, and the Examiner acknowledges in the Office Action that Hill does not disclose the windshield

being united in a cohesive mass.

The Examiner relies on Werner et al as disclosing a cohesive mass uniting a shattered window. Like Hill, Werner et al discloses use of a resin to fill a crack in an automobile window and does not disclose the resin being adhesively bonded to a substantial portion of at least one of the exterior surface or the interior surface of the window. In particular, Werner et al discloses the repair apparatus as having a sealing edge 31 to “prevent resin from leaking out along the windshield surface” (column 2, lines 13-14). Accordingly, Werner et al distinctly teaches away from a layer of unifying material adhesively bonded to a substantial portion of the exterior surface or the interior surface of the windshield as is required for the layer of unifying material recited in claim 1. As pointed out above, Hill possesses this same deficiency. There is also no disclosure whatsoever by Werner et al of an adhesive bond between the resin and the windshield or of the resin and the windshield forming an integral, cohesive mass in which the windshield is structurally united. The disclosure by Werner et al of a resin does not necessarily or inherently encompass the resin being adhesively bonded to the windshield. Rather, the teachings of Werner et al lend itself to an interpretation where the only “bond” between the resin and the windshield is due to the pressure of the resin filling the crack without any structural bond between the resin and the windshield. Indeed, this is consistent with Werner et al’s recognition of the potential for the crack to reappear due to shrinkage of the resin and to suppress reappearance of the crack by inducing compression in the resin (column 10, lines 31-43). Accordingly, it cannot be concluded from Werner et al’s disclosure of a resin that an adhesive bond exists between the resin and the windshield. Werner et al also does not disclose an integral, cohesive mass in which the windshield is

structurally united, and Werner et al's disclosure of a resin material and its confinement to within a crack teaches away from the cohesive mass recited in claim 1. In particular, resins refer to lower molecular weight materials which do not have high performance capabilities which would enable them to hold a shattered pane together. Even if Werner et al disclosed a material having high performance capabilities, its placement within a small crack and not on a substantial portion of an exterior surface or an interior surface of the windshield cannot create a cohesive mass in which the windshield is structurally united. Notably, both Werner et al and Hill are directed to repairing only relatively small cracks in automobile windshields that remain structurally sound and are inapplicable to shattered panes requiring restoration of structural integrity. Accordingly, it is submitted that independent claim 1 is clearly patentable over Hill in view of Werner et al and should be allowed along with dependent claims 2-24.

It is acknowledged by the Examiner that Grossman does not disclose a layer of unifying material or a cohesive mass as recited in independent claim 1, and Foster et al is relied on by the Examiner as rectifying the deficiencies of Grossman. Specifically, the Examiner considers Foster et al as disclosing a layer of unifying material adhesively bonded to at least one of an exterior surface or an interior surface of a window pane with the material and the pane bonded thereto forming an integral, cohesive mass in which the window pane is united. Moreover, the Examiner asserts it would have been obvious to modify Grossman in accordance with the teachings of Foster et al. Applicant respectfully disagrees with the Examiner's interpretations with respect to Foster et al and its applicability to Grossman. The invention disclosed by Foster is completely unrelated to shattered glass. Rather, Foster et al relates to temporary protective coatings applied to

undamaged sheet glass during the manufacturing process to protect against scratching. Notably, Foster et al does not disclose the protective coatings adhesively bonded to the sheet glass and actually teaches away from adhesively bonded coatings by pointing out the problems and disadvantages associated with adhesively backed films (column 1, lines 33-40). Foster et al fails to disclose, explicitly or inherently, the formation of an integral, cohesive mass formed by the protective coatings and a shattered glass sheet much less an integral, cohesive mass in which the shattered glass sheet is structurally united. Indeed, the protective coatings of Foster et al cannot be structurally united to the glass sheets since the protective coatings are only applied temporarily during the manufacturing process and are intended to be removed. Scratch resistance requires very little in the area of mechanical performance, as evidenced by the fact that paper is often used to shield glass from scratching. Scratch resistance does not require the mechanical tensile strength or rigidity needed to create a cohesive mass, and Foster et al fails to provide any teachings whatsoever from which it can be concluded that the protective coatings have a greater strength than that required for scratch protection. In addition to Foster et al failing to disclose the teachings which Grossman et al lacks, it is improper to conclude that the teachings of Foster et al can be applied to Grossman. In particular, Foster et al requires that the glass sheet be heated above the boiling point of water (column 1, lines 51-65) and, for practical reasons, is inapplicable to the in situ window structure of Grossman. The in situ window of Grossman cannot be heated to the 400 degree temperature required by Foster et al, and any attempt to heat a shattered window pane to this temperature would cause the shattered glass to collapse. It is submitted, therefore, that independent claim 1 is clearly patentable over Grossman in view of Foster et al and should be allowed along

with dependent claims 2-24.

With respect to dependent claims 6-16, it is noted that Slavin, Jr. fails to rectify any of the underlying deficiencies of Hill and Werner et al. In addition, the passage in Slavin, Jr. relied on by the Examiner for the disclosure of a polymeric material refers merely to a polymer resin which fills a crack in the same manner and environment disclosed by Hill and Werner et al. There is no disclosure whatsoever in Slavin, Jr. from which to conclude the resin referred to therein is capable of forming an integral, cohesive mass with a shattered window pane. It is submitted, therefore, that dependent claims 6-16 are clearly patentable over Hill in view of Werner et al and further in view of Slavin, Jr. for the additional limitations recited therein as well as being allowable with independent claim 1.

Dependent claim 17 recites the unifying material as “a cellulosic material”, and neither Hill nor Werner et al teach or suggest a cellulosic material. Accordingly, dependent claim 17 is clearly patentable over Hill in view of Werner et al for the additional limitation recited therein as well as being allowable with independent claim 1.

Dependent claim 19 recites “said unifying material seeps into said crack when said unifying material is applied in fluidic form and forms a structural bond at said crack when said unifying material cures.” Both Hill and Werner et al require the resin to be forcefully injected into the crack and cannot accomplish a successful outcome if the resin merely seeps into the crack. In addition, as pointed out above, neither Hill nor Werner et al disclose the resin forming a structural bond at the crack. Accordingly, dependent claim 19 is submitted to be clearly patentable over Hill in view of Werner et al for the additional features recited therein as well as being allowable with independent claim 1.

Dependent claim 20 recites “at least one grasping member secured to said cohesive

mass”, and dependent claim recites the at least one grasping member as including “a handle bonded to said layer of unifying material.” The Examiner refers to the entire repair apparatus 10 of Hill as a grasping member; however, Hill does not disclose any structure whatsoever of the repair apparatus as a grasping member secured to a cohesive mass much less a handle bonded to the resin filler. Hill fails to disclose any type of bond between the resin filler and any structural components of the repair apparatus 10. Accordingly, claims 20 and 21 are submitted to be clearly patentable over Hill in view of Werner et al for the additional limitations recited therein as well as being allowable with independent claim 1.

Independent claim 28 recites “applying a layer of unifying material to a substantial portion of at least one of an exterior surface of the shattered window pane or an interior surface of the shattered window pane opposite the exterior surface; adhesively bonding the layer of unifying material to the window pane to structurally unite the shattered window pane and form a cohesive mass including the window pane and the layer of unifying material; and removing the cohesive mass from the window frame as one or more integral and unitary pieces.” As discussed above in connection with independent claim 1, neither Hill, Werner et al or Slavin, Jr. teach or suggest applying the resin to an exterior surface or an interior surface of a shattered window pane much less a substantial portion of the exterior or interior surface. Rather, Hill, Werner et al and Slavin, Jr. teach away from application of the resin to a substantial portion of an exterior surface or interior surface of the automobile windshield. There are also no teachings or suggestion whatsoever by either Hill, Werner et al or Slavin, Jr. of adhesively bonding the resin to a shattered window pane to structurally unite the shattered window pane and form a cohesive mass. The

function of the resin in Hill, Werner et al and Slavin, Jr. is to fill a crack without requiring that the resin be adhesively bonded to the windshield. In addition, the use of a resin and its limited placement within a small crack in an automobile windshield, as disclosed by Hill, Werner et al and Slavin, Jr., fails to teach or suggest the formation of a cohesive mass. Since the resins disclosed by Hill, Werner et al and Slavin, Jr. are required to do nothing more than fill a crack in a windshield, removal of the windshield (which is not disclosed by the references) does not inherently or necessarily involve a cohesive mass as recited in claim 28. Accordingly, independent claim 28 is submitted to be clearly patentable over Hill in view of Werner et al and further in view of Slavin, Jr. and should be allowed along with dependent claims 29-39.

Grossman fails to disclose any of the steps recited in independent claim 28 and Foster et al fails to rectify the deficiencies of Grossman as well as being inapplicable to Grossman. Foster et al fails to disclose the step of applying recited in claim 28 since its disclosure is limited to application of a protective layer to an undamaged glass sheet and does not involve applying a layer of unifying material to a shattered window pane as required by claim 28. As pointed out above in connection with independent claim 1, there are no teachings or suggestions whatsoever in Foster et al of the protective coating being adhesively bonded to a shattered window pane to structurally unite the shattered window pane and form a cohesive mass and, to the contrary, Foster et al requires that the protective coating be separable from the window pane as it is only a temporary protective coating. In addition, Foster et al fails to teach or suggest any material for the protective coating from which it may be concluded that the protective coating has sufficient strength and rigidity to form a cohesive mass including the window pane and the protective coating.

From a practical standpoint, the teachings of Foster et al cannot credibly be applied to Grossman since Foster et al requires conditions and procedures that cannot practically be carried out in the environment of Grossman. Accordingly, independent claim 28 is submitted to be clearly patentable over Grossman in view of Foster et al and should be allowed along with dependent claims 29-32 and 35-39.

Dependent claim 29 recites “spraying the unifying material in fluidic form onto the at least one of the exterior surface or the interior surface of the window pane” and neither Hill, Werner et al or Slavin, Jr. disclose a step of spraying. Hill and Werner et al explicitly and literally disclose the resin as being injected under pressure into a crack, and Slavin, Jr. does not disclose the manner in which the resin is applied. In each case, however, it is essential that the resin completely fill a small crack and, from a practical standpoint, this cannot be accomplished by spraying and requires pressurized injection with significant force. Accordingly, independent claim 29 is submitted to be clearly patentable over Hill in view of Werner et al and further in view of Slavin, Jr. for the additional features recited therein as well as being allowable with claim 28.

Dependent claims 30-32 recite the steps of applying particular polymeric materials to the window pane and these steps are not disclosed in Hill, Werner et al or Slavin, Jr. Accordingly, claims 30, 31 and 32 and submitted to be clearly patentable over Hill in view of Werner et al and further in view of Slavin, Jr. for the additional features recited therein as well as being allowable with claim 28.

Dependent claim 36 recites “prior to said step of removing, the step of attaching at least one grasping member to the cohesive mass.” As pointed out above in connection with dependent claim 20, Hill fails to teach or suggest a grasping member much less a

grasping member attached to a cohesive mass. Also, there are no teachings or suggestions whatsoever by Hill of removing the windshield while the repair apparatus 10 is attached thereto. The only reason for attachment of the repair apparatus to the windshield is to execute filling of the crack, with the repair apparatus being removed after the crack is filled. Werner et al and Slavin, Jr. also do not teach or suggest a grasping member. Accordingly, claim 36 is submitted to be clearly patentable over Hill in view of Werner et al and further in view of Slavin, Jr. for the additional features recited therein as well as being allowable with independent claim 28.

Dependent claim 37 recites "inserting a portion of the at least one grasping member into the unifying material prior to curing thereof such that the portion of the at least one grasping member is bonded to the unifying material when the unifying material has cured." Hill fails to disclose any portion of the repair apparatus 10 serving as a grasping member, much less being inserted into the resin prior to curing of the resin, and fails to disclose any portion of the repair apparatus 10 bonded to the resin. Accordingly, claim 37 is clearly patentable over Hill in view of Werner et al and further in view of Slavin, Jr. for the additional features recited therein as well as being allowable with independent claim 28.

Dependent claims 38 and 39 recite limitations relating to the step of removing. None of these limitations are or can be found in Hill, Werner et al or Slavin, Jr. since neither of the latter references discloses removal of the windshield. Accordingly, claims 38 and 39 are clearly patentable over Hill in view of Werner et al and further in view of Slavin, Jr. for the limitations recited therein as well as being allowable with independent claim 28.

Independent claim 51 recites "applying a layer of unifying material to a substantial

portion of at least one of an exterior surface of a shattered window pane or an interior surface of the shattered window pane opposite the exterior surface; adhesively bonding the layer of unifying material to the window pane to structurally unite the shattered window pane and form a cohesive mass including the shattered window pane and the layer of unifying material; and leaving the cohesive mass in place to stabilize the shattered window pane for a desired length of time.” Independent claim 51 is submitted to be clearly patentable over Hill in view of Werner et al and further in view of Slavin, Jr. since the latter references fail to teach or suggest the steps of applying and adhesively bonding and do not teach or suggest the resin as forming a cohesive mass with a cracked windshield. Accordingly, independent claim 51 should be allowed along with dependent claims 52-55.

Dependent claim 52 is patentable over Hill in view of Werner et al and further in view of Slavin, Jr. for the reasons discussed above in connection with dependent claim 29.

Dependent claim 53 recites the step of leaving as “stabilizing the window pane by preventing fragments of the window pane from becoming loose” and dependent claim 54 recites the step of leaving as “stabilizing the window pane by preventing it from collapsing.” Neither Hill, Werner et al or Slavin, Jr. disclose a resin capable of either preventing fragments of a cracked windshield from becoming loose or preventing a cracked windshield from collapsing. Accordingly, dependent claims 53 and 54 are clearly patentable over Hill in view of Werner et al and further in view of Slavin, Jr. for the additional limitations recited therein as well as being allowable with independent claim 51.

Independent claim 56 recites “at least one handle secured to said protected window pane by adhesion of said at least one handle with said foam, wherein said adhesion is provided by said foam.” Sanford discloses panel member 16 and a handle 34 secured to

the panel member. The panel member 16 is disclosed by Sanford as being made from metal and plastic materials, preferably fiberglass. Sanford does not teach or suggest the panel member 16 being made as a layer of polymeric foam and the fact that Sanford merely refers to the possibility of the panel being made of other materials does not make it obvious to make the panel member of polymeric foam in the absence of impermissible hindsight made possible only with the teachings of the present invention. Even if the panel member 16 of Sanford could be considered as being made from polymeric foam, there are no teachings or suggestions provided by Sanford which would motivate one to adhere the handle with the foam wherein the adhesion is provided by the foam. The only teaching that would be obvious from Sanford would be to utilize the same securement for the handle member 34 as that disclosed for the panel member 16. Accordingly, independent claim 56 cannot be considered obvious over Sanford and is submitted to be clearly patentable over Sanford and should be allowed along with dependent claims 57 and 59.


Dependent claim 59 recites "said layer is bonded to said window pane by adhesion provided by said foam", and this feature cannot be considered obvious in view of Sanford absent the use of impermissible hindsight.

Independent claim 60 recites "applying a layer of unifying material in fluidic form to at least one of an exterior surface ... or an interior surface of the shattered window pane ..., said step of applying being accomplished by spraying the unifying material on the at least one of the exterior surface or the interior surface without applying pressure to the shattered window pane other than the pressure of the unifying material itself; solidifying the layer of unifying material to bond the layer of unifying material to the window pane to unite the shattered window pane and form a cohesive mass including the shattered window pane

or suggest a step of applying accomplished by spraying a unifying material on an exterior surface or interior surface of a shattered window pane without applying pressure to the shattered window pane other than the pressure of the unifying material itself. Hill and Werner et al do not even disclose applying the resin to an exterior surface or an interior surface of a shattered window pane and both references explicitly require that pressure be applied to the automobile windshield from an apparatus used to inject the resin in a crack. Slavin, Jr. does not rectify any of the deficiencies of Hill and Werner et al, and claim 60 is clearly patentable over Hill in view of Werner et al and further in view of Slavin, Jr. and should be allowed along with dependent claims 61 and 62.

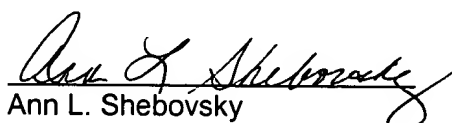
In light of the foregoing, all of the claims in the subject application are submitted to be in condition for allowance. Action in conformance therewith is courteously solicited. Should any issues in the subject application remain unresolved, the Examiner is encouraged to contact the undersigned attorney.

Respectfully submitted,


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I hereby certify that this correspondence is being deposited with the U.S. Postal Service with sufficient postage as first class mail in an envelope addressed to Mail Stop: Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on February 10, 2004.


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